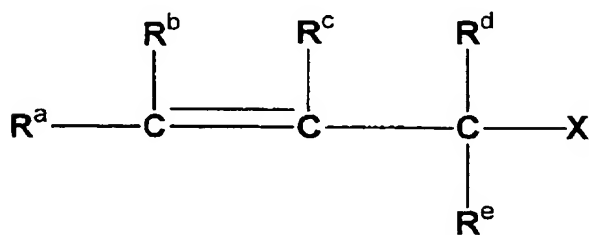


WHAT IS CLAIMED IS:

1. A method for producing an allyl compound having a compositional formula different from that of an allyl starting material compound, which comprises reacting the allyl starting material compound with an oxygen nucleophilic agent in the presence of a catalyst containing at least one transition metal compound containing a transition metal selected from the group consisting of transition metals belonging to Group 8 to Group 10 of the Periodic Table and a multidentate phosphite compound.
2. The method for producing an allyl compound according to Claim 1, wherein the multidentate phosphite compound is a bidentate phosphite compound.
3. The method for producing an allyl compound according to Claim 1, wherein the allyl starting material compound has a structure of the following formula (a):



(a)

- wherein  $R^a$  to  $R^e$  are respectively independently a hydrogen atom, a halogen atom, a hydroxyl group, an amino group, a formyl group, an alkyl group, an aryl group (including a heterocyclic compound forming an aromatic  $6\pi$  electron cloud on the upper and lower sides of the ring,

hereinafter the same), an alkoxy group, an aryloxy group, an alkylthio group, an arylthio group, an amide group, an acyl group or an acyloxy group; among these groups, the amino group, the alkyl group, the aryl group, the alkoxy group, the aryloxy group, the alkylthio group, the arylthio group, the acyl group or the acyloxy group may have a substituent; and when any of  $R^a$  to  $R^e$  has a carbon chain, the carbon chain may have at least one carbon-carbon double bond or triple bond;

10       X is a halogen atom, a hydroxyl group, a nitro group, an amino group, a sulfonyl group, a sulfonate group, an acyloxy group, a carbonate group, a carbamate group, a phosphate group, an alkoxy group or an aryloxy group; among these groups, the amino group, the sulfonyl group, 15 the sulfonate group, the acyloxy group, the carbonate group, the carbamate group, the phosphate group, the alkoxy group and the aryloxy group may have a substituent; when X has a carbon chain, the carbon chain may have at least one carbon-carbon double bond or triple 20 bond; and

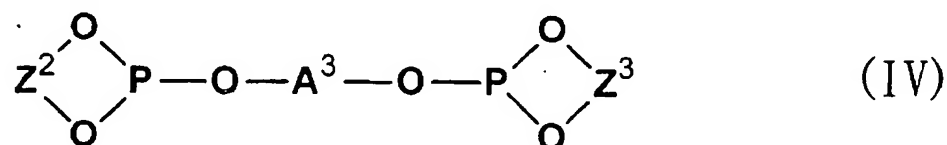
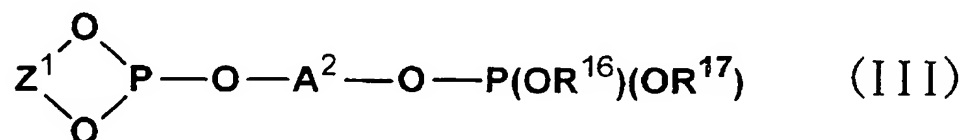
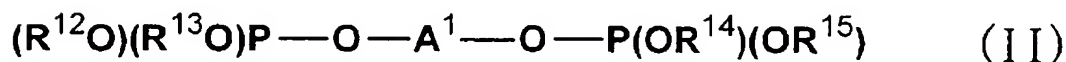
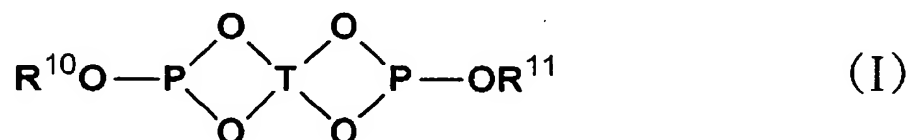
at least two optional groups among  $R^a$  to  $R^e$  and X may bond to each other to form at least one cyclic structure.

4. The method for producing an allyl compound according to Claim 1, wherein the oxygen nucleophilic agent is a 25 compound different from a substituent X and its proton adduct X-H eliminated from the allyl starting material compound by reaction, and is a compound containing a

nucleophilic oxygen atom expressed by AO-H or its deprotonated form of  $\text{AO}^-$ , in which A is a hydrogen atom or an organic group having a carbon atom, a nitrogen atom, a phosphorus atom or a sulfur atom bonded to the oxygen atom.

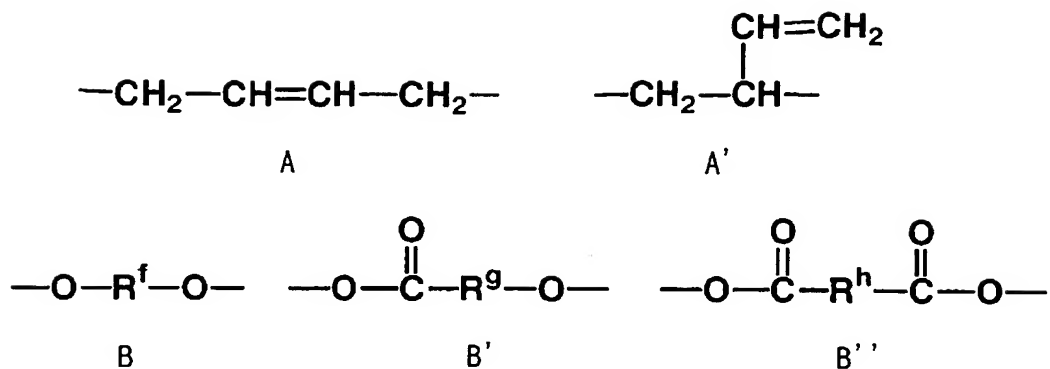
5. The method for producing an allyl compound according to Claim 1, wherein the transition metal compound is at least one compound selected from the group consisting of a ruthenium compound, a rhodium compound, an iridium compound, a nickel compound, a palladium compound and a platinum compound.

6. The method for producing an allyl compound according to Claim 1, wherein the multidentate phosphite compound is at least one bidentate phosphite compound selected from the group consisting of compounds expressed by the following structural formulae (I) to (IV),



wherein  $R^{10}$  to  $R^{17}$  are respectively independently an alkyl or aryl group which may have a substituent,  $Z^1$  to  $Z^3$  and  $A^1$  to  $A^3$  are respectively independently a bivalent organic group, and T is a tetravalent organic group.

- 5 7. The method for producing an allyl compound according to Claim 6, wherein in the above formulae (II) to (IV),  $R^{12}$  to  $R^{17}$  are respectively independently an aryl group which may have a substituent, and  $Z^1$  to  $Z^3$  are respectively independently a diarylene group which may
- 10 have a substituent.
8. The method for producing an allyl compound according to Claim 6, wherein the transition metal compound is a palladium compound.
9. The method for producing an allyl compound according to Claim 1, wherein a phosphonium compound is present in
- 15 the reaction system.
10. The method for producing an allyl compound according to Claim 1, wherein an ammonium compound is present in the reaction system.
- 20 11. A condensation copolymer containing a butenediyl unit expressed by the following formulae A and A' and a dioxy unit expressed by the following formulae B, B' and/or B'',



wherein  $R^f$ ,  $R^g$  and  $R^h$  are respectively independently a bivalent organic group which may have a substituent.

12. The condensation copolymer according to Claim 11,  
 5 wherein the butenediyl unit expressed by the formula A and the butenediyl unit expressed by the formula A' are present in a mol ratio of A:A'=1:10-10:1 in the copolymer.